100

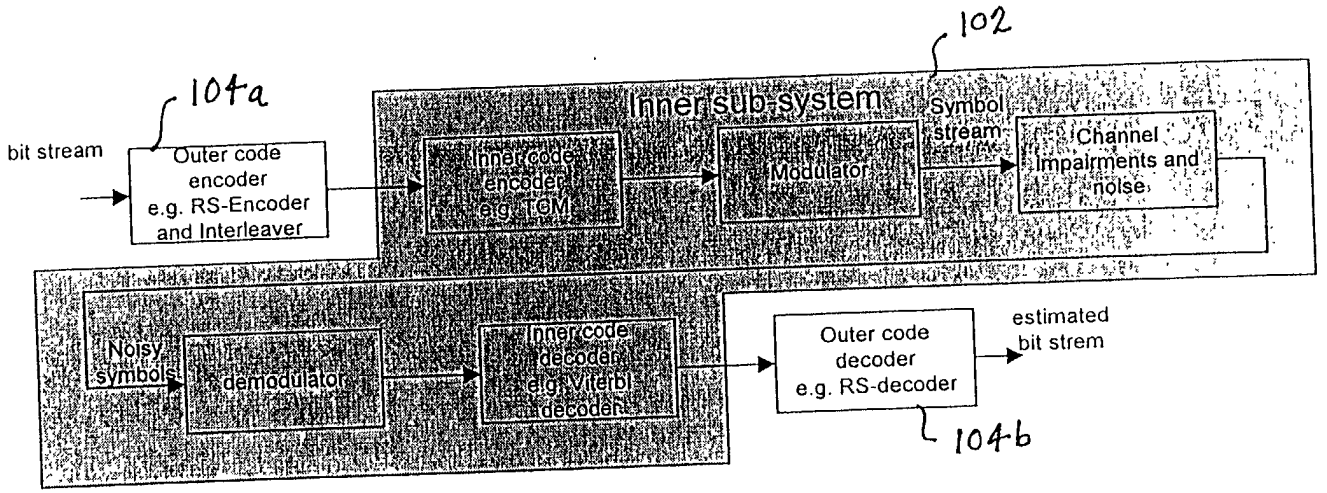
102
104a
bit stream
Outer code encoder e.g. RS-Encoder and Interleaver
Inner sub-system
Inner code encoder e.g. TCM
Modulator
symbol stream
Channel impairments and noise
Noisy symbols
demodulator
Inner code decoder e.g. Viterbi decoder
Outer code decoder e.g. RS-decoder
estimated bit strem
104b

Figure 1

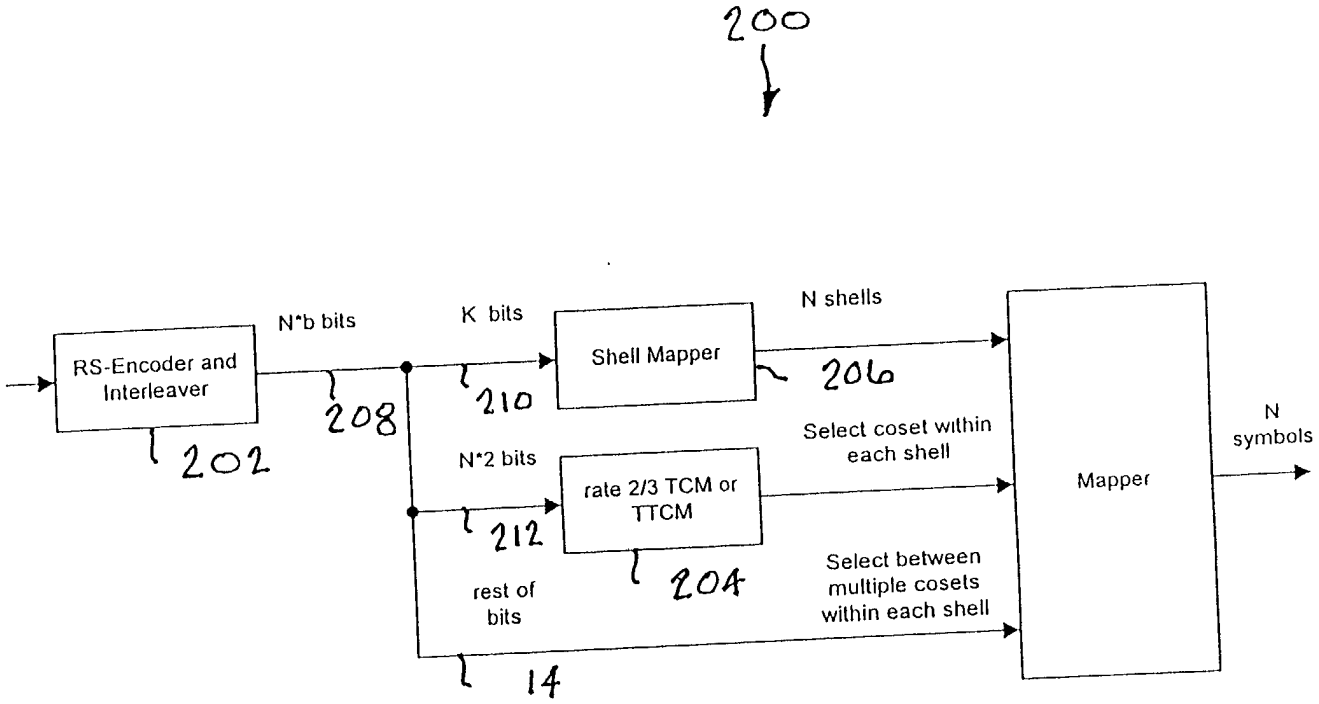
200
RS-Encoder and Interleaver
202
N*b bits
208
K bits
210
Shell Mapper
206
N shells
N*2 bits
212
rate 2/3 TCM or TTCM
204
rest of bits
14
Select coset within each shell
Select between multiple cosets within each shell
Mapper
N symbols

Figure 2

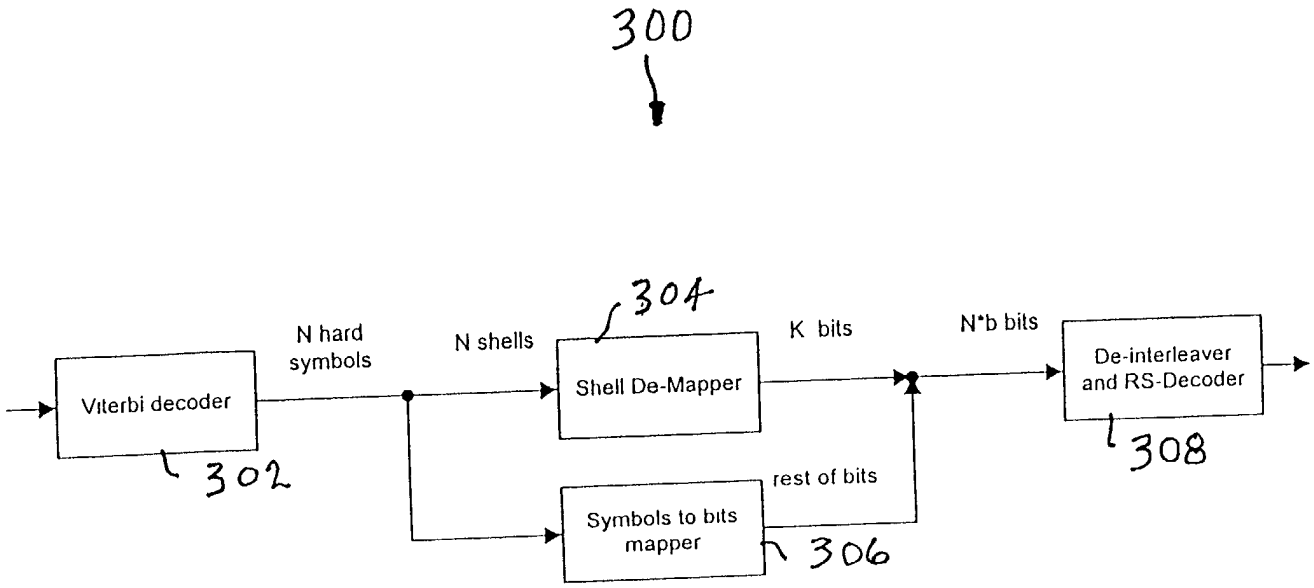
300
304
N hard symbols
N shells
K bits
N*b bits
Viterbi decoder
Shell De-Mapper
De-interleaver and RS-Decoder
302
308
rest of bits
Symbols to bits mapper
306

Figure 3

T0930Z0 "5620060

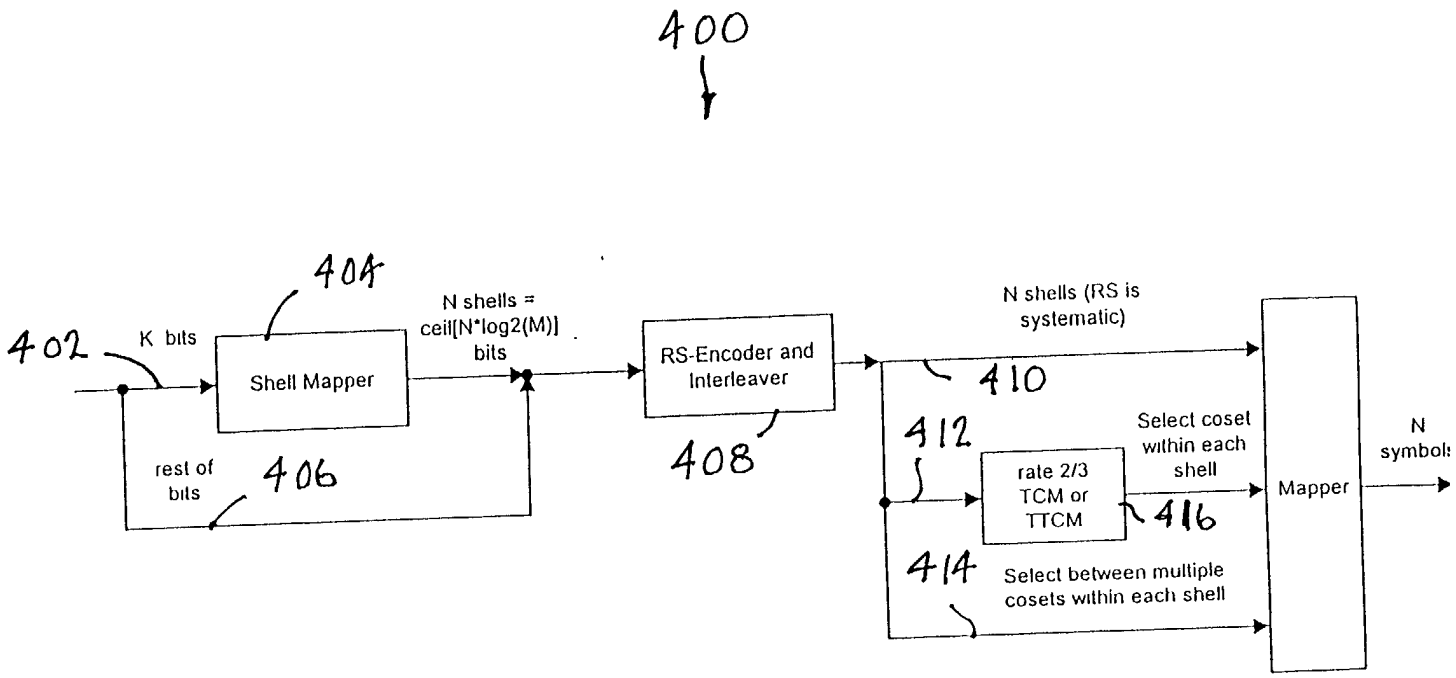

Figure 4

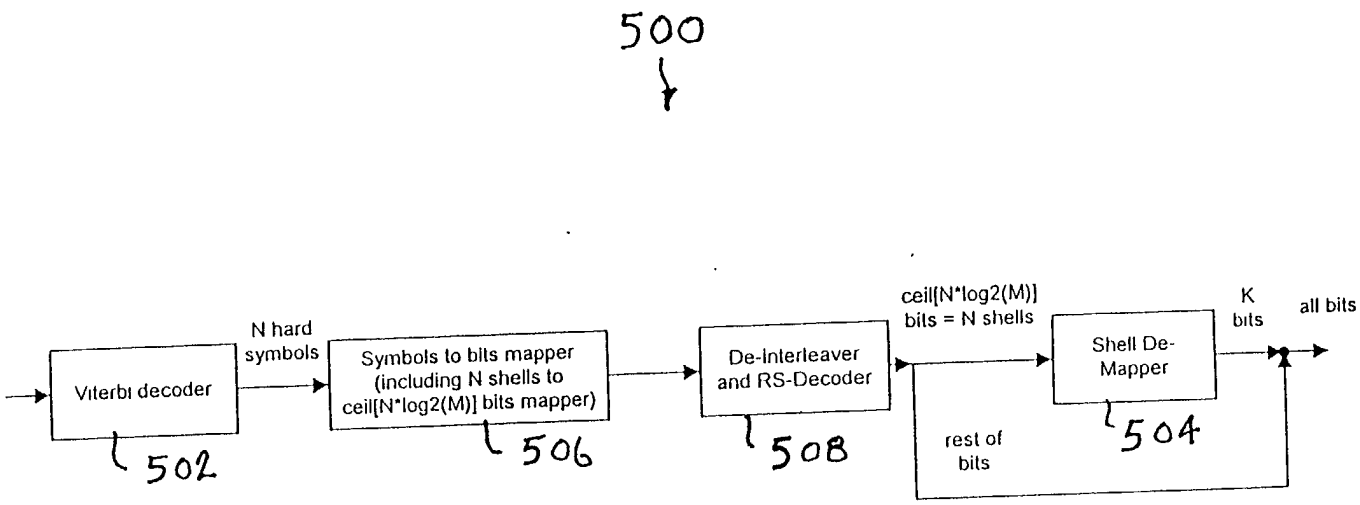
500
Viterbi decoder
502
N hard symbols
Symbols to bits mapper (including N shells to ceil[N*log2(M)] bits mapper)
506
De-Interleaver and RS-Decoder
508
ceil[N*log2(M)] bits = N shells
rest of bits
Shell De-Mapper
504
K bits
all bits

Figure 5